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PETITION FEE Under 37 CFR 1.17(f), (g) & (h) TRANSMITTAL (Fees are subject to annual revision) Send completed form to: Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450		Application Number	10/795,996
		Filing Date	March 10, 2004
		First Named Inventor	Satoshi YAGI
		Art Unit	
		Examiner Name	
		Attorney Docket Number	501.43636X00

Enclosed is a petition filed under 37 CFR §1.102(d) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of \$ 130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

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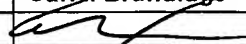
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Petition Fees under 37 CFR 1.17(f):	Fee \$400	Fee Code 1462
For petitions filed under:		
§ 1.53(e) - to accord a filing date.		
§ 1.57(a) - to according a filing date.		
§ 1.182 - for decision on a question not specifically provided for.		
§ 1.183 - to suspend the rules.		
§ 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.		
§ 1.741(b) - to accord a filing date to an application under §1.740 for extension of a patent term.		

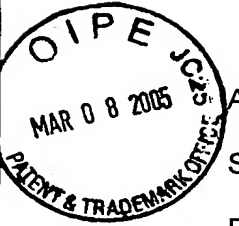
Petition Fees under 37 CFR 1.17(g):	Fee \$200	Fee code 1463
For petitions filed under:		
§1.12 - for access to an assignment record.		
§1.14 - for access to an application.		
§1.47 - for filing by other than all the inventors or a person not the inventor.		
§1.59 - for expungement of information.		
§1.103(a) - to suspend action in an application.		
§1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.		
§1.295 - for review of refusal to publish a statutory invention registration.		
§1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.		
§1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.		
§1.550(c) - for patent owner requests for extension of time in <u>ex parte</u> reexamination proceedings.		
§1.956 - for patent owner requests for extension of time in <u>inter partes</u> reexamination proceedings.		
§ 5.12 - for expedited handling of a foreign filing license.		
§ 5.15 - for changing the scope of a license.		
§ 5.25 - for retroactive license.		

Petition Fees under 37 CFR 1.17(h):	Fee \$130	Fee Code 1464
For petitions filed under:		
§1.19(g) - to request documents in a form other than that provided in this part.		
§1.84 - for accepting color drawings or photographs.		
§1.91 - for entry of a model or exhibit.		
§1.102(d) - to make an application special.		
§1.138(c) - to expressly abandon an application to avoid publication.		
§1.313 - to withdraw an application from issue.		
§1.314 - to defer issuance of a patent.		

Name (Print/Type)	Carl L. Brundidge	Registration No. (Attorney/Agent)	29,621
Signature		Date	March 8, 2005

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicants: Satoshi YAGI

Serial No.: 10/795,996

Filed: March 10, 2004

For: CONTROL METHOD FOR DATA TRANSFER DEVICE, DATA
TRANSFER CIRCUIT, AND DISK ARRAY DEVICE

**PETITION TO MAKE SPECIAL
UNDER 37 CFR 1.102(d) and MPEP §708.02, VIII**

MS Petition

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

March 8, 2005

Sir:

1. Petition

Applicants hereby petition to make this application **Special**, in accordance with 37 CFR §1.102(d) and MPEP 708.02, VIII. The present invention is a new application filed in the United States Patent and Trademark Office on March 10, 2004 and as such has not received any examination by the Examiner.

2. Claims

Applicants hereby represent that all the claims in the present application are directed to a single invention. If upon examination it is determined that all the claims presented are not directed to a single invention, Applicants will make an election without traverse as a prerequisite to the granting of special status.

3. Search

Applicants hereby submit that a pre-examination search has been made by a professional searcher.

The field of search covered:

<u>Class</u>	<u>Subclasses</u>
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710	5, 7, 21, 29, 71
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711	111, 112
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The above subclasses represent areas deemed to contain subject matter of interest to one or more of the search features. The search was conducted using the US Patent Office's Examiner Application Search Tool (EAST) database and image retrieval system. The EAST database contains images of all issued US patents and published US patent applications searchable by subclass or document number. The EAST database also includes: the searchable full text of US patents issued since 1971; the searchable full text of all US published patent applications; and the searchable abstracts of a large number of patents and patent applications from the European and Japanese Patent Offices.

4. Copy of References

A listing of all references found by the professional searcher is provided by a Form PTO-1449 and copies of the references and the Form PTO-1449 are submitted as part of an Information Disclosure Statement (IDS) filed on even date.

5. Detailed Discussion of the References and Distinctions Between the References and the Claims

Below is a discussion of the references uncovered by the search and cited in the IDS filed on even date that appear to be most closely related to the subject matter encompassed by the claims of the present application, and which discussion particularly points out how Applicants' claimed subject matter is distinguishable over those references. All other references uncovered by the search and cited in the IDS filed on even date are **not** treated in detail herein.

a. Detailed Discussion of the References

Keener (U.S. Patent No 5,586,302) shows a personal computer system having a storage controller with memory write control. The system includes a storage controller coupled directly to a high speed local processor data bus for regulating communications between the microprocessor and storage memory devices. An external volatile memory is coupled to the storage controller for volatile storage of data, and the storage controller has internal volatile memory for transitory storage of data being communicated to the external volatile memory. The storage controller further has control drivers interposed between the internal volatile memory and the external volatile memory for controlling communication of data to the external volatile memory. An enable driver and enable receiver are connected for issuing a write signal to the external volatile memory prior to enablement of data communication through the control drivers, and for sustaining a control signal communicated to the control drivers for enabling data communication until after deactivation of the write signal. (See, e.g., Abstract, FIGS. 1-4, column 2 lines 30-45, and columns 4-5).

However, Keener does not teach or suggest the use of a data control unit that generates and adds security code based on the serial data stored in the data storage unit, when a block constituting the write destination of the write data differs in a data storage device and the data storage unit as recited in the claims.

Smith (U.S. Patent No. 5,721,949) shows a disk controller having sequential digital logic in a state machine for transferring data between a DMA device and a disk drive with minimal assistance of the CPU. The method for controlling a disk drive unit in accordance with the system includes the steps of: (a) determining on a host computer a current action to be performed with a disk drive unit; (b) formatting a track of a disk engaged with the disk drive unit based upon output data provided by the host computer if the current action is a formatting action; (c) writing a sector on the disk based upon output data provided by the host computer if the current action is a writing action; and (d) reading a sector of the disk and transferring input data to the host computer if the action data is a reading action. In both the "formatting a track" and "writing a sector" steps the data includes at least one command code preceded by an escape code. The system also includes digital logic responsive to a data bus of the host computer and operative to develop a data-type bus based on the data bus, where the data-type bus is operative to specify one of a plurality of data types, and a converter responsive to the data bus and the data-type bus and operative to provide serial data to a disk drive unit mechanism. (See, e.g., Abstract, FIGS. 1-8, column 4, column 5 lines 1-15, 45-67 and column 6).

However, Smith does not teach or suggest the use of a data control unit that generates and adds a security code based on the serial data stored in the data storage unit, when a block constituting the write destination of the write data differs in

a data storage device and the data storage unit as recited in the claims.

Suzuki (U.S. Patent No. 5,737,633) shows a serial data receiving device having a memory for storing a reception permit signal which enables or disables the device from hand shaking with a transmitting device. The serial data receiver includes a first memory means for receiving and storing serial data from a data sending line, for shifting the data bit by bit when receiving each one bit of the data, and for converting the serial data into parallel data when all the bits constituting the serial data are stored. The serial data receiver also includes a first detecting means coupled to the data sending line for detecting the reception of the last bit of the serial data. A second memory means is coupled to the first detecting means for storing a reception permit signal allowing the serial data to be received. The reception permit signal is enabled or disabled by the first detecting means. Also, a first control means is coupled to the second memory means for controlling the reception of the serial data in accordance with the reception permit signal. (See, e.g., Abstract, FIGS. 1-15, column 2 lines 40-67, column 3 lines 1-35, and columns 5-6).

However, Suzuki does not teach or suggest the use of a data control unit that generates and add a security code based on the serial data stored in the data storage unit, when a block constituting the write destination of the write data differs in a data storage device and the data storage unit as recited in the claims.

Morrissey (U.S. Patent No. 5,832,310) shows an apparatus for transferring user defined data from a parallel storage medium to a serial link driver that transmits a frame of user defined data over a serial data transfer medium. The system includes a parallel storage medium for storing the user defined data. A control data facility distinct from the parallel storage medium is provided. The control data facility

forms and transmits control data from the sender of the frame to the recipient of the frame via a path that does not include the parallel storage medium. A switching facility is coupled to the parallel storage medium for receiving the user defined data. The switching facility is also coupled to the control data facility for receiving the control data. The switching facility is coupled to the serial link driver for providing either the user-defined data or the control data to the serial link driver. The system also has a FIFO circuit including a header checker/generator to check block header information received along with user data from a data buffer to be transmitted by the channel subsystem, and an error detection code (EDC) generator/checker to check block EDC information received along with user data from data buffer to be transmitted by the channel subsystem. (See, e.g., Abstract, FIGS. 1-15, column 2 lines 35-67, column 3 lines 30-67, and columns 4 and 5).

However, Morrissey does not teach or suggest the use of a data storage unit that generates and adds a security code based on the serial data stored in the data storage unit when a block constituting the write destination of the write data buffer in a data storage device and the data storage unit as recited in the claims.

Kern (U.S. Patent No. 6,202,124) shows a data storage system with an outboard physical data transfer operation utilizing a data path distinct from a host. The system includes a host computer, one or more digital data storage devices, one or more device controllers attached between the host computer and the storage devices, and an outboard data manager coupled to the host and the device controllers. The outboard data manager receives a data transfer request from the host computer, with the request identifying source data residing on one or more source devices among the storage devices, and the request additionally identifying

one or more target devices among the digital data storage devices. In response to the request, the outboard data manager directs one or more source device controllers attached to the source devices to direct contents of the source data from the source devices to the outboard data manager via a data path independent of the host. The outboard data manager forwards the contents of the source data from the outboard data manager to one or more target device controllers attached to the target devices via a data path independent of the host. (See, e.g., Abstract, FIGS. 1-5, column 2 lines 5-55, and columns 3, 4 and 5).

However, Kern does not teach or suggest the use of a data control unit that generates and adds a security code based on the serial data stored in the data storage unit, when a block constituting the write destination of the write data differs in a data storage device and the data storage unit as recited in the claims.

Arase (U.S. Patent No. 6,694,386) shows a data transfer apparatus that receives data that should be transferred in real time from a first external device, and outputs the data to a second external device. The data transfer apparatus includes: a receiving unit for receiving data from the first external device; a storage unit for storing the data received by the receiving unit; an output unit for receiving data and outputting the data to the second external device; a retransmission request receiving unit for receiving a retransmission request signal from the second external device; and a transfer control unit for having a first transfer performed when the receiving unit has received data from the first external device and a second transfer performed when the retransmission request receiving unit has received the retransmission request signal, the first transfer transferring the data directly to both the output unit and the storage unit in parallel using direct memory access, and the second transfer

transferring data, which has already been stored in the storage unit by the first transfer, to the output unit. (See, e.g., Abstract, FIGS. 1-12, column 4 lines 20-67, column 5-6, and column 9 lines 35-67).

However, Arase does not teach or suggest the use of a data storage unit that generates and adds a security code based on the serial data stored in the data storage unit when a block constituting the write destination of the write data buffer in a data storage device and the data storage unit as recited in the claims.

b. Distinctions Between the References and the Claims

The present invention as recited in the claims is not taught or suggested by any of the above noted references whether taken individually or in combination with each other or in combination with any of the other references now of record.

The present invention as recited in the claims is directed to a control method for a data transfer device or circuit as recited in claims 1 and 2, the data transfer circuit as recited in claims 3 and 4 and a disk array device as recited in claims 5-10, wherein according to one configuration the disk array device includes at least a host interface for receiving write data for a disk drive from an information processing device and a data controller that transfers the write data received by the host interface to the disk drive and according to another configuration the disk array device includes at least a channel control unit for receiving write data for a disk drive from an information processing device and a disk control unit that performs processing relating to the write of data for the disk drive.

Each of the claims includes at least a first feature of when, with respect to the received write data, a block in the storage area of the storage device constituting the

write destination of the write data and the block in the storage area of the storage device of the storage device that is stored in the data storage unit are the same, the control unit updates data stored in the data storage unit corresponding with the storage device, wherein a storage location constitutes the write destination of the write data.

Further, each of the claims recite at least a second feature of when, with respect to the received write data, a block in the storage area of the storage device constituting the write destination of the write data and the block in the storage area of the storage device that is stored in the data storage unit are different, the data control unit generates a security code based on the serial data stored in the data storage unit, as the generated security code to the serial data stored in the data storage unit before transferring this serial data to the storage device, reads the serial data stored in the block in the storage area of the storage device constituting the write destination of the write data before this serial data in the data storage unit, and generates the data stored in the data storage unit corresponding with the storage device, wherein a storage location constitutes the write destination of the write data.

As per the above "Detailed Discussion of the References" section none of the above described references or any of the other references of record whether taken individually or in combination with each other teach or suggest the features of the present invention as recited in each of the claims. Particularly, the above described first and second features of the present invention as recited in the claims are not taught or suggested by Kenner, Smith, Suzuki, Morrissey, Kern and Arase whether taken individually or in combination with each.

Therefore, since the above described references and the other references of

record fail to teach or suggest the above described first and second features of the present invention as recited in the claims, it is submitted that all of the claims are patentable over the above described references and the other references of record whether taken individually or in combination with each other.

6. CONCLUSION

Applicant has conducted what it believes to be a reasonable search, but makes no representation that "better" or more relevant prior art does not exist. The United States Patent and Trademark Office is urged to conduct its own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited herein and any other prior art that the United States Patent and Trademark Office may locate in its own independent search. Further, while Applicant has identified in good faith certain portions of each of the references listed herein in order to provide the requisite detailed discussion of how the claimed subject matter is patentable over the references, the United States Patent and Trademark Office should not limit its review to the identified portions but rather, is urged to review and consider the entirety of each reference, and not to rely solely on the identified portions when examining this application.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

7. Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

☒ the Credit Card Payment Form (attached) for \$130.00.

☐ charging Account _____ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (501.43636X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



Carl I. Brundidge
Registration No. 29,621

CIB/jdc
Enclosures
(703) 684-1120